Claims

[c1]   1. A method for controlling analytical and adjustment operations of a microscope, comprising the following steps:

-depicting a data set in graphical form on a display associated with the microscope;

-selecting at least one position in the graphical form of the data set that depicts an image of the specimen;

-identifying automatically a region from the data set and the selected position; and

-performing an analytical or adjustment operation or both.

[c2]   2. The method as defined in Claim 1, wherein the analytical operation is based on the geometry of a structure of interest or on the data set of a structure of interest.

[c3]   3. The method as defined in Claim 1, comprising the step:

-selecting an adjustment function for execution of an adjustment operation.

[c4]   4. The method as defined in Claim 3, wherein the adjustment operation modifies at least one image sensing parameter.

[c5]   5. The method as defined in Claim 4, wherein the image sensing parameters consist essentially of zoom, image centering, detection sensitivity, illuminating light output, spectral composition of the illumination, polarization of the illumination, spectral detection of the identified region, and rotation of the identified region.

[c6]   6. The method as defined in Claim 1, comprising the steps:

-focusing automatically of a structure of interest within the identified image of the specimen; and

-centering the structure of interest within the image of the specimen.

[c7]   7. An arrangement for controlling analytical and adjustment operations of a microscope comprising:

-multiple detectors for converting optical signals into electrical signals;

–an electronic acquisition system, which converts the electrical signals coming from the detectors into digital signals and preprocesses them, is provided;

–a PC, which receives the digital signals from the electronic acquisition system and identifies from the digital signals a graphical depiction which corresponds to an image of the specimen;

–a display, which reproduces the graphical depiction and moreover offers selectable adjustment functions to the user, is connected to the PC;

–an input unit is provided for choosing the adjustment functions and selecting at least one structure of interest in the image of the specimen; and

–an electronic control system, with which the adjusting elements of the microscope are be controlled, is connected to the PC.

[c8]   8.The arrangement as defined in Claim 7, wherein the electronic control system has a memory that serves for temporary storage of the at least one structure of interest and is connected via a line to a routing unit; and a pixel clock is in communication both with the memory and with the routing unit.

[c9]   9.The arrangement as defined in Claim 8, wherein the routing unit has multiple outputs by way of which the microscope is controllable.

[c10]   10.The arrangement as defined in Claim 7, wherein the electronic acquisition system has multiple analog/digital converters that are connected to an electronic circuit.

[c11]   11.The arrangement as defined in Claim 10, wherein the electronic circuit is configured as an FPGA.

[c12]   12.The arrangement as defined in Claim 7, wherein the adjustment functions are arranged on the display in a panel box in the form of multiple click buttons.

[c13]   13.A software program on a data carrier for controlling analytical and adjustment operations of a microscope, wherein the following processes are carried out:

–depicting a data set in graphical form on a display associated with the microscope;

–selecting at least one position in the graphical form of the data set that depicts the image of the specimen;

–identifying automatically a region from the data set and the selected position; and

–performing an analytical or adjustment operation or both.

[c14]   14.The software program as defined in Claim 13, wherein the analytical operation is based on the geometry of a structure of interest or on the data set of a structure of interest.

[c15]   15.The software program as defined in Claim 13, characterized by the step:
–selecting an adjustment function for execution of an adjustment operation.

[c16]   16.The software program as defined in Claim 15, wherein the adjustment operation modifies at least one image sensing parameter.

[c17]   17.The software program as defined in Claim 16, wherein the image sensing parameters consist essentially of zoom, image centering, detection sensitivity, illuminating light output, spectral composition of the illumination, polarization of the illumination, spectral detection of the identified region, and rotation of the identified region.

[c18]   18.The software program as defined in Claim 13, comprising:
–automatic focusing of a structure of interest within the identified image of the specimen; and

–centering of the structure of interest within the image of the specimen.